

Work Order ID 81923 - SPLIT-1

March 21, 2012 8:09:50 AM

\*81923\*

Page 1

Item ID: D6101-001

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Saddle Billet

Start Date: 3/21/12 Start Qty: 100.00

\*100\*

Cust Item ID:

Required Date: 4/05/12 Req'd Qty: 100.00

\*100\*

Customer:

Reference:

Approvals: Process Plan: CL

Date: 12/03/21 Tooling:

Date:

Run Start \*NR1\*

QC:

Date: SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D6101

Rev B

100

0.00

\*100\*

PURCHASING

Purchasing

0.00

Purchasing

Memo

Issue P/O: 16517

a) Description: Aluminum billet

b) 6.00" x 6.250" x 2.00" thick

c) Tolerance on length are +0.030"/-0.000" A +/-0.008"

d) Grain direction along 6.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

CL 12/03/21 100

110

Receive & Inspect for Damage & Mat'l Certs.

0.00

\*110\*

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

CL 12/03/21 100

rk Order ID 81923

\*81923\*

Page 2

4/21, 2012 8:09:50 AM

ID: D6101-001

Accept

\*N900040100\*

Setup Start \*NS1\*

ion ID:

Stop \*NS2\*

Name: Saddle Billet

Date: 3/21/12 Start Qty: 100.00

\*100\*

Cust Item ID:

red Date: 4/05/12 Req'd Qty: 100.00

\*100\*

Customer:

ence:

Run Start \*NR1\*

ivals: Process Plan:

Date:

Tooling:

Date:

Stop \*NR2\*

QC:

Date:

SPC (Y/N):

Date:

nce ID/  
Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

QC6- Inspect dimensions to drawing

0.00

OK 12/04/06

50

0

N\*

Memo

0.00

Control

Ensure Material certification comply to Dwg D

Identify as per dwg &amp; Stock Location: MAT41 0.00

OK 12/04/06

50

0

N\*

ng

Memo

0.00

g

QC21- Final Inspection - Work Order Release 0.00

12/4/10

LMF  
12-04-07

N\*

Control

Memo

0.00

# Picklist Print

March 21, 2012 8:09:50 AM

Page 1

Work Order ID: 81923  
Parent Item: D6101-001  
Parent Item Name: Saddle Billet

Start Date: 3/21/12

Required Date: 4/05/12

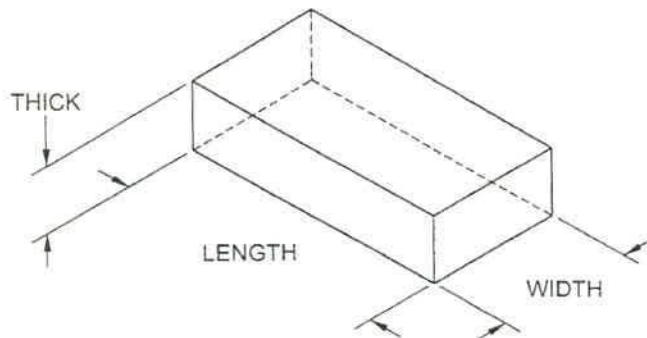
Start Qty: 100.00

Required Qty: 100.00

Comments: IPP B: 01.05.04New IsucEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001P 7075-T7351 2X6X6.25		Purchased	No			110	Each	0.0000	1	100		3/21/12 (50)	

# SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

**B** ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
<b>B</b> D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

**RELEASED**  
09/07/15/WB

CA 12/03/21  
W10: 81923

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



**Castle Metals®**

A. M. Castle &amp; Co.

## BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No: 1254710

<b>Expédié de / Ship From:</b> A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		<b>Vendu à / Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Expédié à / Ship To:</b> WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		<b>Livré à / Deliver To:</b> WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA	
<b>Date d'expédition / Date Shipped</b>	<b>F.O.B.</b>	<b>Modalités de transport / Freight Terms</b>		<b>Transporteur / Carrier</b>		<b>No du Bon de connaissance / BOL No</b>	
02-APR-2012	ORIGIN	Prepaid		MANITOULIN		1254710-2	

<b>Détails d'expédition / Shipment Details</b>	<b>Destination finale / Final Destination Branch - MON</b>
--	--

N° de commande / Order No	N° de ligne / Line No	N° d'article / Item No	Description
2069107	1	752237.MO	2.0000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6.25 IN ( + .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) X 6 IN ( + .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12
N° de bon de commande / Purchase Order No	Nbre de pièces / Part Number	Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty
PER RELEASE 16517	YOUR ITEM NUMBER: D6101-001	50.00 PCS	50.0000 PCS

Détails / Details DO NOT SHIP - HOLD FOR RELEASE							
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code mec / Mech Id	Pièces / PCS	Largeur (Pouce) / Width (IN)	Longueur (Pouce) / Length (IN)	Qté expédiée / Shipped Qty(LBS)
117476701	CONSTELLIUM ROLLED PRODUCTS	213731		50			387.08

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description.

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 02-APR-2012 01:34:31 PM



Constellium



# CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO  
3050 SO HYDRAULIC  
WICHITA KS  
67216

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 1 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12	
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.	

**CERTIFICATION**  
"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC  
Rt 2 South, Century Road  
P.O. BOX 68  
RAVENSWOOD, WY 26164 USA

*Rodney J. Felty*  
Rodney J. Felty - Laboratory Manager

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN	MAX									
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.											
213721	LT	2	72.8	73.0	62.2	62.3	12.0	12.0	40.1	40.2									
All material contained in lot 213721 was cast and manufactured in the USA.																			
213731	LT	2	73.1	73.2	62.3	62.5	12.0	12.0	40.6	40.8									
All material contained in lot 213731 was cast and manufactured in the USA.																			
213751	LT	2	73.8	74.2	63.3	63.7	11.5	11.5	39.7	39.9									
All material contained in lot 213751 was cast and manufactured in the USA.																			
ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS																			
GAMPS 9101 100% SONIC MINUS DEAD ZONE CLASS A																			
AMS4078G,ASTM-B209-10,MMS159P,CMMP025;AMC CA-15413A R																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
		SEE ACTUAL CHEMICAL COMPOSITION																	
ALUMINUM REMAINDER																			







# CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO  
3050 SO HYDRAULIC  
WICHITA KS  
67216

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 2 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12	
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.	

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC  
Rt 2 South, Century Road  
P.O. BOX 68  
RAVENSWOOD, WV 26164 USA

*Rodney J. Felty*  
Rodney J. Felty - Laboratory Manager

LOT NUMBER		TEST DIRECTION		NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS								
					MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX							
					AMS STD 2154, PS21211L, ASTM B594, BSS 7055														
C H E M C O M P	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.		
		SEE ACTUAL CHEMICAL COMPOSITION																	
		ALUMINUM REMAINDER																	





Constellium



# CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO  
3050 SO HYDRAULIC  
WICHITA KS  
67216

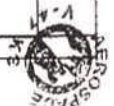
A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 3 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC Rt 2 South, Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA  Rodney J. Felty - Laboratory Manager
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500	
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL						
CUSTOMER SPECIFICATION AMS-QQ-A-250/12						
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12		
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.		

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN	MAX
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		
ACTUAL CHEMICAL COMPOSITION										
213721	C	SI= 0.07 CR= 0.20 OTHERS-EACH: .05 MAX.	FE= 0.14 ZN= 5.61 OTHERS TOTAL: .15 MAX.	CU= 1.38 TI= 0.02 OTHERS TOTAL: .15 MAX.	MN= 0.04 ZR= 0.01 OTHERS TOTAL: .15 MAX.	MG= 2.60 AL REMAINDER				
213731	C	SI= 0.07 CR= 0.20 OTHERS-EACH: .05 MAX.	FE= 0.14 ZN= 5.61 OTHERS TOTAL: .15 MAX.	CU= 1.38 TI= 0.02 OTHERS TOTAL: .15 MAX.	MN= 0.04 ZR= 0.01 OTHERS TOTAL: .15 MAX.	MG= 2.60 AL REMAINDER				
213751	C	SI= 0.07 CR= 0.20 OTHERS-EACH: .05 MAX.	FE= 0.15 ZN= 5.52 OTHERS TOTAL: .15 MAX.	CU= 1.43 TI= 0.03 OTHERS TOTAL: .15 MAX.	MN= 0.05 ZR= 0.01 OTHERS TOTAL: .15 MAX.	MG= 2.63 AL REMAINDER				
SEE ACTUAL CHEMICAL COMPOSITION										
ALUMINUM REMAINDER										







# CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO  
3050 SO HYDRAULIC  
WICHITA KS  
67216

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 4 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM <b>135513</b>				Constellium ORDER NO. <b>050-981421</b>		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."  Constellium Rolled Products Ravenswood, LLC Rt 2 South, Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA <i>Rodney J. Felty</i> Rodney J. Felty - Laboratory Manager
ALLOY <b>7075</b>	CLAD. <b>00</b>	TEMPER <b>T7351</b>	GAUGE <b>2.00000</b>	WIDTH <b>48.500</b>	LENGTH <b>144.500</b>	
ITEM ORDERED <b>DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL</b>						
CUSTOMER SPECIFICATION <b>AMS-QQ-A-250/12</b>						
PART NUMBER <b>752237</b>		B/L NUMBER <b>103600</b>		DATE SHIPPED <b>01/05/12</b>		
WEIGHT SHIPPED <b>12,865</b>		NO. OF PIECES <b>9</b>		GOVT. CONTRACT NO.		

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS										
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.									
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE.																			
THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.																			
CHEMISTRY BY OES: ARKSPARK																			
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT.																			
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399.																			
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557.																			
DUNS Number: 090570149; CAGE Code: 1YWL9																			
Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.																			
"END OF CERTIFICATION"																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
	SEE ACTUAL CHEMICAL COMPOSITION																		
ALUMINUM REMAINDER																			

